Author Index

Acosta Gallegos, J.A. (Durango, Mexico) and Shibata, J.K. (Chapingo, Mexico)
Effect of water stress on growth and yield of interminate dry-bean (*Phaseolus vulgaris*) cultivars 81
Ali, Y., *see* Malik, I.A. et al.
Auma, E.O., *see* Gardner, F.P. and Auma, E.O.
Barnett, F.L., *see* Mohammed, A. et al.
Blanchet, R., *see* Kiniry, J.R. et al.
Cabelguenne, M., *see* Kiniry, J.R. et al.
Carberry, P.S. (Aitkenvale, Qld., Australia), Muchow, R.C. (Winnelli, N.T., Australia) and McCown, R.L. (Aitkenvale, Qld., Australia)
Testing the CERES-Maize simulation model in a semi-arid tropical environment 297
Carberry, P.S., *see also* Muchow, R.C. and Carberry, P.S.
Connor, D.J., *see* Hall, A.J. et al.
see also Whitfield, D.M. et al.
Demagante, A.L., *see* Vander Zaag, P. and Demagante, A.L.
Ellis, R.H., *see* Khah, E.M. et al.
Gardner, F.P. (Gainesville, FL, U.S.A.) and Auma, E.O. (Njoro, Kenya)
Canopy structure, light interception, and yield and market quality of peanut genotypes as influenced by planting pattern and planting date 13
Groenwold, J., *see* Vos, J. and Groenwold, J.
Gyles, O.A., *see* Whitfield, D.M. et al.
Hall, A.J., Connor, D.J. (Parkville, Vic., Australia) and Whitfield, D.M. (Tatura, Vic., Australia)
Contribution of pre-anthesis assimilates to grain-filling in irrigated and water-stressed sunflower crops
I. Estimates using labelled carbon 95
Hall, A.J., *see also* Whitfield, D.M. et al.
Harris, H.C., *see* Stapper, M. and Harris, H.C.
Itoh, Y., *see* Sasahara, T. and Itoh, Y.
Jones, C.A., *see* Kiniry, J.R. et al.
Kaesehagen, D., *see* Kirby, E.J.M. et al.
Khah, E.M., Roberts, E.H. and Ellis, R.H. (Reading, Great Britain)
Effects of seed ageing on the growth and yield of spring wheat at different plant-population densities 175
Khaleeq, B., *see* Mohammed, A. et al.
Kiniry, J.R., Jones, C.A. (Temple, TX, U.S.A.), O'Toole, J.C. (New York, NY, U.S.A.), Blanchet, R., Cabelguenne, M. (Toulouse, France) and Spanel, D.A. (Temple, TX, U.S.A.)
Radiation-use efficiency in biomass accumulation prior to grain-filling for five grain-crop species 51
Kirby, E.J.M. (Nedlands, W.A., Australia), Siddique, K.H.M., Perry, M.W. (South Perth, W.A., Australia), Kaesehagen, D. and Stern, W.R. (Nedlands, W.A., Australia)
Variation in spikelet initiation and ear development of old and modern Australian wheat varieties 113
Langer, R.H. (Christchurch, New Zealand)
Book review of *Alfalfa and Alfalfa Improvement*, by A.A. Hanson, D.K. Barnes and R.R. Hill, Jr 153

Malik, I.A., Ali, Y., Saleem, M. and Tahir, G.R. (Faisalabad, Pakistan)
Yield stability of induced-early-maturing mutants of mungbean (*Vigna radiata*) and their use in a multiple-cropping system 251
McCown, R.L., *see* Carberry, P.S. et al.
Mohamed, A., Barnett, F.L., Vanderlip, R.L. (Manhattan, KS, U.S.A.) and Khaleeq, B. (Hays, KS, U.S.A.)
Emergence and stand establishment of pearl millet as affected by mesocotyl elongation and other seed and seedling traits 41
Muchow, R.C. (St. Lucia, Qld., Australia)
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment
I. Yield potential 191
II. Effect of water deficits 207
Muchow, R.C. (Winnellie, N.T., Australia) and Carberry, P.S. (Aitkenvale, Qld., Australia)
Environmental control of phenology and leaf growth in a tropically adapted maize 221
Muchow, R.C., *see also* Carberry, P.S. et al.
Ntare, B.R. (Niamey, Niger)
Evaluation of cowpea cultivars for intercropping with pearl millet in the Sahelian zone of West Africa 31
O'Toole, J.C., *see* Kiniry, J.R. et al.
Perry, M.W., *see* Kirby, E.J.M. et al.
Roberts, E.H., *see* Khah, E.M. et al.
Russell, J.S. (Brisbane, Qld., Australia)
Book review of *The Chickpea* by M.C. Saxena and K.B. Singh 154
Saleem, M.,*see* Malik, I.A. et al.
Sands, P.J. (Hobart, Tasmania, Australia)
Model of the development and bulking of potatoes (*Solanum tuberosum*)
VI. Predicting the time of emergence 165
Sasahara, T. and Itoh, Y. (Tsuruoka, Japan)
Comparison of the effect of fertilizer application at and after the stage of panicle-base initiation on yield and yield components of semi-darf and standard rice cultivars 157
Shibata, J.K., *see* Acosta Gallegos, J.A. and Shibata, J.K.
Siddique, K.H.M., *see* Kirby, E.J.M. et al.
Smith, C.J., *see* Whitfield, D.M. and Smith, C.J.
see also Whitfield, D.M. et al.
Spanel, D.A., *see* Kiniry, J.R. et al.
Stapper, M. and Harris, H.C. (Aleppo, Syria)
Assessing the productivity of wheat genotypes in a Mediterranean climate, using a crop-simulation model 129
Stern, W.R., *see* Kirby, E.J.M. et al.
Tahir, G.R., *see* Malik, I.A. et al.
Vander Zaag, P. and Demagante, A.L. (Manila, The Philippines)
Potato (*Solanum* spp.) in an isohyperthermic environment.
IV. Effects of cutting seed tubers 1
Vanderlip, R.L., *see* Mohamed, A. et al.
Vos, J. and Groenwold, J. (Wageningen, The Netherlands)
Characteristics of photosynthesis and conductance of potato canopies and the effects of cultivar and transient drought 237
Whitfield, D.M. (Tatura, Vic., Australia), Connor, D.J. (Parkville, Vic., Australia) and Hall, A.J. (Parkville, Vic., Australia and Buenos Aires, Argentina)
Carbon dioxide balance of sunflower (*Helianthus annuus*) subjected to water stress during grain-filling 65

Whitfield, D.M. and Smith, C.J. (Tatura, Vic., Australia)
Effects of irrigation and nitrogen on growth, light interception and efficiency of light conversion in wheat 279
Whitfield, D.M., Smith, C.J., Gyles, O.A. and Wright, G.C. (Tatura, Vic., Australia)
Effects of irrigation, nitrogen and gypsum on yield, nitrogen accumulation and water use by wheat 261
Whitfield, D.M., *see also* Hall, A.J. et al.
Wright, G.C., *see* Whitfield, D.M. et al.

Subject Index

Alfalfa, *see Medicago*
Arachis
Canopy structure, light interception, yield and quality as influenced by planting pattern and date 13
Canopy characteristics
Canopy structure, light interception, yield and quality of peanut as influenced by planting pattern and date 13
Photosynthesis and conductances of potato canopies and effects of cultivar and drought . 237
Carbon dioxide budget, *see* Nutrient dynamics
Cicer spp.
The Chickpea (book review) 154
Cowpea, *see Vigna* spp.
Environmental conditions, influence of
Potato in an isohyperthermic environment
IV. Effects of cutting seed tubers 1
Variation in development of old and modern Australian wheats 113
Assessing productivity of wheat in a Mediterranean climate 129
Model of development of *Solanum*
VI. Predicting time of emergence 165
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment
I. Yield potential 191
Control of phenology and leaf growth in a tropical maize 221
Fertilizers, *see* Nutrient dynamics
Groundnut, *see Arachis* spp.
Helianthus spp.
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Carbon dioxide balance of sunflower subjected to water stress 65
Contribution of pre-anthesis assimilates to irrigated and water-stressed sunflower
I. Estimates using labelled carbon 95
Intercropping, *see* Planting regime, influence of
Irrigation, *see* Water regime, influence of
Lucerne, *see Medicago* spp.
Maize, *see Zea* spp.
Medicago spp.
Alfalfa and Alfalfa Improvement (book review) 153
Millet, pearl, *see Pennisetum* spp.
Modelling
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Assessing productivity of wheat in a Mediterranean climate 129
Model of development of *Solanum*
VI. Predicting time of emergence 165
Testing the CERES-maize simulation model 297
Nutrient dynamics
Carbon dioxide balance of sunflower subjected to water stress 65
Contribution of pre-anthesis assimilates to irrigated and water-stressed sunflower
I. Estimates using labelled carbon 95
Fertilizer, effect on rice cultivars 157
Irrigation effects, nitrogen and gypsum, on wheat 216
Photosynthesis and conductance of potato canopies and effects of cultivar and drought .. 237

Effects of irrigation and nitrogen on wheat 279
Oryza spp.
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Fertilizer, effect on rice cultivars 157
Peanut, *see Arachis* spp.
Pennisetum spp.
Evaluation of cowpea for intercropping with pearl millet 31
Emergence and establishment as affected by seed and seedling traits 41
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment.
I. Yield potential 191
Phaseolus spp.
Effect of water stress 81
Seed ageing, effects on spring wheat at different population densities 175
Yield stability of early-maturing *Vigna* in multiple-cropping 251
Planting regime, influence of
Canopy structure, light interception, yield and quality of peanut as influenced by planting pattern and date 13
Potato, *see Solanum* spp.
Propagation
Potato in an isohyperthermic environment
IV. Effects of cutting seed tubers 1
Pearl millet, emergence and establishment as affected by seed and seedling traits 41
Seed ageing, effects on spring wheat at different population densities 175
Radiation: interception and efficiency of use
Canopy structure, light interception, yield and quality of peanut as influenced by planting pattern and date 13
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment
I. Yield potential 191
II. Effect of water deficits 207
Phenology and leaf growth, control in a tropical maize 221
Irrigation and nitrogen, effects on wheat 279
Rice, *see Oryza* spp.
Seed treatment, *see* Propagation
Soil treatment, influence of
Irrigation, nitrogen and gypsum, effects on wheat 216
Model of development of potatoes
VI. Predicting time of emergence 165
Solanum spp.
Potato in an isohyperthermic environment
IV. Effects of cutting seed tubers 1
Photosynthesis and conductance of potato canopies and effects of cultivar and drought .. 237
Sorghum spp.
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment
I. Yield potential 191
II. Effect of water deficits 207

Sunflower, *see Helianthus* spp.
Thermal time, *see* Environmental conditions, influence of
Triticum spp.
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Variation in development of old and modern Australian varieties 113
Assessing productivity in a Mediterranean climate 129
Seed ageing, effects on spring wheat at different population densities 175
Irrigation, nitrogen and gypsum effects 216
Irrigation and nitrogen effects 279
Variety trials
Potato in an isohyperthermic environment
IV. Effects of cutting seed tubers 1
Canopy structure, light interception, yield and quality of peanut as influenced by planting pattern and date 13
Cowpea, evaluation for intercropping with pearl millet 31
Emergence and establishment of pearl millet as affected by seed and seedling traits 41
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Water stress, effect on *Phaseolus* 81
Variation in development of old and modern Australian wheats 113
Assessing productivity of wheat in a Mediterranean climate 129
Fertilizer, effect on rice cultivars 157
Photosynthesis and conductance of potato canopies and effects of cultivar and drought .. 237
Yield stability of early-maturing *Vigna* in multiple-cropping 251
Vigna spp.
Evaluation of cowpea for intercropping with pearl millet 31
Yield stability of early-maturing mutants in multiple-cropping 251
Water regime, influence of
Carbon dioxide balance of sunflower subjected to water stress 65
Water stress, effect on *Phaseolus* 81
Contribution of pre-anthesis assimilates to irrigated and water-stressed sunflower
I. Estimates using labelled carbon 95
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment
II. Effect of water deficits 207
Irrigation, nitrogen and gypsum, effects on wheat 216
Phenology and leaf growth, control in a tropical maize 221
Photosynthesis and conductance of potato canopies and effects of cultivars and drought . 237
Irrigation and nitrogen, effects on wheat 279
Wheat, *see Triticum* spp.
Zea spp.
Radiation-use efficiency in biomass accumulation for five grain-crop species 51
Comparative productivity of maize, sorghum and pearl millet in a semi-arid tropical environment
I. Yield potential 191
II. Effect of water deficits 207
Control of phenology and leaf growth in a tropical maize 221
Testing the CERES-Maize simulation model 297